

## A Comparative Study of Efficacy and Safety of Salicylic Acid, Trichloroacetic Acid and Glycolic Acid in Various Facial Melanosis

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**Abstract :** Introduction: Chemical peeling is a popular, relatively inexpensive day procedure and generally safe method for treatment of pigmentary skin disorders and for skin rejuvenation. Chemical peels are classified by the depth of action into superficial, medium, and deep peels. Various facial pigmentary conditions have significant impact on quality of life causing psychological stress, necessitating its safe and effective treatment. Aim & Objectives: To compare the efficacy of Salicylic acid, Trichloroacetic acid & Glycolic Acid in facial melanosis (melasma, photomelanosis & post acne pigmentation). To study the side effects of above mentioned peeling agents. Method and Materials: It was a randomized parallel control single blind study consisting of total of 36 cases, 12 cases each of melasma, photo melanosis and post acne pigmentation within age group 20-50 years having Fitzpatrick's skin type 4. Woods lamp examination was done to confirm the type of melasma. Patients with keloidal tendency, active herpes infection or past history of hypersensitivity to salicylic acid, trichloroacetic and glycolic acid as well as patients on systemic isotretinoin were excluded. Clinical photographs at the beginning of therapy and then serially, were taken to assess the clinical response. Prior to application a written informed consent was obtained. A post auricular test peel was performed. Patients were divided into 3 groups, containing 12 patients each of melasma, photomelanosis and post acne pigmentation. All the three peels SA peel 20% (done once in 2 weeks), GA peel 50% (done once in 3 weeks) and TCA 15% (done once in 3 weeks) were used with total six settings for each patient. Before application of peel patients were counseled to wash the face with soap and water. Then face was dried and cleaned with spirit and acetone to remove all cutaneous oils. GA, TCA, SA were applied with cotton buds/gauze with mild strokes. After a contact period of 5-10 mins neutralization was done with cold water. Post peel topical sunscreen application was mandatory. MASI was used pre and post treatment to assess melasma. Investigator's global improvement scale- overall hyperpigmentation (4-significant, 3-moderate, 2-mild, 1-minimal, 0-no change) and Patient's satisfaction grading scale (>70%- excellent response, 50-70%- good response, <50%- average response) was used to assess improvement in all the three facial melanosis. Results: In our study of 12 patients of melasma, 4 (33.33%) patients showed excellent results; 3 (25%) with GA and 1 (8.33%) of TCA. Good response was seen in 4 (33.33%) patients; 1 (8.33%) each for GA & SA and 2 (16.66%) for TCA. Poor response was seen in 4 (33.33%) patients; 1 (8.33%) for TCA and 3 (25%) for SA. Of 12 patients of photomelanosis, excellent results were seen in 3 (25%) patients of TCA. Good response was seen in 4 (33.33%) patients, 1 (8.33%) each of TCA & SA and 2 (16.66%) of GA. Poor response was seen in 5 (41.66%) patients; 3 (25%) for SA and 2 (16.66%) of GA. Of 12 patients of post acne pigmentation, excellent response in 3 (25%) patients; 2 (16.66%) of SA and 1 (8.33%) of TCA. Good response was seen in 5 (41.66%) patients; 2 (16.66%) of SA and GA and 1 (8.33%) of TCA. Poor response was seen in 4 (33.33%) patients; 2 (16.66%) for SA and TCA both. No major side effects in the form of scarring or persistent pigmentation was seen. Transient blackening of skin with burning sensation was seen in cases treated with TCA and SA. Post procedural itching and redness was noted with GA peel. Conclusion- In our study GA (50%), TCA (15%) & SA (20%) peels showed excellent response in melasma, photomelanosis and post-acne pigmentation respectively. All the 3 peeling agents were well tolerated without any significant side-effects in the above specified concentrations.

**Keywords :** facial melanosis, glycolic acid, salicylic acid, trichloroacetic acid

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